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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,481	01/08/2002	Yaacov Almog	1149/63502	1737

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
1756	10

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/039,481

Applicant(s)

ALMOG, YAACOV

Examiner

Christopher D RoD e

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/8/02, 9/6/02, 12/17/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The amendment to specification page 1 is incomplete as submitted because there is no indication where the replacement should be made. Because it is apparent that the amendment is meant to claim priority under § 120, the amendment has been made as an addition to the specification as the first paragraph of page 1. See MPEP 714.23.

This amendment is further objected to because the amendment lists an incorrect filing date for application 08/583,009. This application was filed 01/26/1996 rather than 1/1/96 as stated in the current amendment.

Applicants are advised that the instant application is considered to have the same disclosure as grandparent application 08/583,009 because each application in the lineage is a continuation of the previous application. If there is any difference in disclosure between 08/583,009 and the instant application applicants are asked to bring this disclosure to the Examiner's attention. The new incorporation of the disclosure of 08/583,009 into this application could contain new matter if the disclosures are not identical.

Priority

The newly submitted priority claim is objected to because the claim was not made during the time period set forth in 37 CFR 1.78(a)(2) or (a)(5). Further, no petition has been submitted to accept an unintentionally delayed claim for priority. Applicants' remarks in the response concerning the priority claims have been carefully considered. The Examiner notes that the transmittal letter does reference a priority claim to the immediate parent application and that a filing receipt was sent from the Office to applicant identifying the full priority claim chain back to

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PCT application. However, applicants have not stated that the copy of the filing receipt submitted to the Office on 6 March 2002 was the first filing receipt received by applicants from the Office. The Examiner telephoned counsel requesting clarification on this point (e.g., 29 Jan 2003 and 6 February 2003) but did not obtain the requisite clarification.

Because the requisite petition or clarification has not been provided, the priority claim must be objected to.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 32-45 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

New claim 32 states that the method of producing the liquid toner requires that the toners have a given particle conductivity and that the coating of the polymer particles with the at least one ionomer provides the polymer particles with a chargeability sufficient to give said toner particles said given particle conductivity. The scope of this limitation is not seen as having basis in the specification as filed.

The specification discloses coating unchargeable particles with an ionomer so that the particles obtain the requisite chargeability (spec. p. 6, l. 32-37). The specification also discloses particles that are weakly chargeable but that the charge "would be of little or no utility so far as

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practical applications in electrostatic imaging were concerned". Enhanced chargeability is obtained by this process (spec. p. 6, l. 38 - p. 7, l. 8). In another embodiment, the ionomer is used to reverse the polarity of the obtained when the particles are present with a charge director (spec. p. 7, l. 9-23).

The instant claim includes within its scope the situation where toner particles that do have sufficient charge in practical applications in electrostatic imaging may either have their charge further increased, kept the same, or decreased by coating with the ionomer to meet the given particle conductivity required. While enhancing of a weakly charged or uncharged polymer particle or reversing the charge on such a particle are disclosed by the reference, ^{-s/es} enhancement of the charge on a polymer particle that does have utility in electrostatic imaging or decreasing of the charge a polymer particle are not disclosed in the specification. These alternatives are seen as included within the scope of the instant claims. The claim is not seen as having basis in the specification as filed and is new matter. The claims dependent on claim 32 are also rejected because they do not rectify the issues presented above.

New claim 33 also does not have basis in the specification as filed for similar reasons. This claim states that the toner precursor particles (understood to be pigmented polymer particles) are unchargeable or weakly chargeable by the charge director(s) to an extent that they are not useable in electrostatic latent images in a particular process. This claim would appear to include the situation where the particles would have sufficient charge for some electrostatic imaging applications but not for others. As discussed above, the specification is clear that the polymer particles "would be of little or no utility so far as practical applications in electrostatic imaging were concerned" because they have weak or no charge. This is consistent with applicant's remarks at page 4, lines 7-8, of the response of 17 December 2002. The specification does not provide basis for an invention where the particles are effective in some

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imaging applications but not in others. The claim includes within its scope certain features, discussed here, that are new matter and without basis in the specification as filed. The claims dependent on claim 33 are also rejected because they do not rectify the issues presented above.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 32-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over EPA 176 630 in view of Whitbread in US Patent 3,325,409, all further in view of Handbook of Imaging Materials to Diamond, Metcalfe in US Patent 3,078,231, and Wagner in US Patent 3,438,904.

Claims 30-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over EPA 176 630 in view of *Electrophotography* to Schaffert, pp. 69-73, all further in view of Handbook of Imaging Materials to Diamond, Metcalfe in US Patent 3,078,231, and Wagner in US Patent 3,438,904.

The rejection relying on Whitbread was presented in the last Office action. This rejection is not applicable to claim 30 because Whitbread's pigmented particle is chargeable to a level useful for electrostatic development noting the guidance in the specification examples. Independent claim 32 does not require any specific charge level for the pigmented particle while independent claim 33 defines the charge based on any particular process of image formation. This includes situations where the charge is different from that inherently possessed by Whitbread's pigmented particle.

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Schaffert is added as an alternative reference to Whitbread in the new rejection. This reference provides further disclosure and motivation for the use of pigmented polymer particles in the invention of the EP document. Specifically, Schaffert discusses liquid developers beginning on page 70 and states that dispersions of pigment particles in a carrier liquid are used as liquid developers. The reference states that it is known to mill the pigment with a resin or oil binders to provide fine suspensions from which images of very fine grain can be obtained. The reference further states the advantage of the binder-pigment milling as providing bonding of the pigment to development paper (i.e., adhesion). The resultant particle of milling would be a pigmented particle because the binder resin is present with the pigment in the resultant particle. Schaffert also shows in Table 4 (p. 73) that known pigments and dyes for fusible toners have weak positive and weak negative charges and that synthetic polymeric binders for fusible toner particles may have no charging effect at all. This suggests that the combination of pigment and resin can be chosen to give a weakly charged particle.

With respect to the other art of record, the EP document, as described in the prior Office action, discloses a method of making and using the toner having the steps of dispersing of pigment particles in the carrier liquid, mixing an ionomer with the dispersed component, and coating of the ionomer on the pigment particles. The supporting art, as discussed previously, suggests adding at least one charge director, where the polymer particles before coating having specific charge characteristics that fall within the scope of the claims. The liquid toner comprises a pigment coated with an ionomer resin such as Copolymer D. The acid groups of the ionomer may be those discussed on page 7. The coated pigment is dispersed in a carrier liquid. See Examples. The EP reference states that milling of the solid components with the carrier liquid is a desired means of producing the developer (p. 13). The reference does not disclose a pigmented polymer or the charge director. The ionomer appears to be insoluble in

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the carrier liquid at room temperature because it is the same type of ionomer as used in the instant specification and forms a coated particle. Applicants have not challenged this position as taken in the last Office action.

The discussion of Diamond, Metcalfe, and Wagner in the last Office action is incorporated here.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute a pigmented polymer particle as taught by Schaffert for the pigment in the EP reference because Schaffert teaches that these particles, formed by milling the pigment and binder, are effective for forming fine dispersions. The artisan would recognize that fine dispersions of the pigmented particle would increase the detail of the developed image. Further, the presence of the resin in the pigmented particle would aid in bonding of the pigment to the final receiver. It would also have been obvious to add a charge director to the liquid developer of the EP document because Diamond discloses charge directors as well known components to produce the desired charge on the toner. The addition of the ionomer resin to the pigment in the European document (EP p. 13) would have been expected to change the charge polarity of the pigment because these components would change the surface charging characteristics of the pigment (see Wagner col. 5, l. 37-42). It would also have been obvious to heat the ionomer during coating when the ionomer becomes adsorbed because this would enhance the ability of the ionomer to come in contact with the pigment particles and then cooling would also have been obvious in order to retain the ionomer on the pigment particle and use the developer at room temperature.

In either combination (i.e., with Schaffert or Whitbread) the artisan would have been expected to optimize the amount of ionomer coating given the guidance on EP p. 8, which suggests from 2 to 50 weight percent of the ionomer, particularly at the specified lower limit.

In response to the rejection as previously set forth, applicants traverse the rejection in the paper of 17 December 2002 correctly noting that the EP document does not disclose a pigmented polymer particle or the use of charge directors. The Examiner made each of these points in the first Office action. The supporting art was relied upon for teaching the pigmented polymer particles and motivating the artisan to use a pigmented polymer particle as the pigment in the EP document because Whitbread discloses the hydrogenated rosin/pigment mixture as providing high contrast images, which are scuff resistant when dried. The supporting art was also relied upon for its disclosure of charge directors as well known in the art to produce the desired charge on the toner particles and for motivating the use of adsorbed charge additives (Metcalf).

Applicant's primary reason (response p. 4) for traversal is that the EP reference teaches a toner particle that is complete by itself and that none of the references disclose the structure claimed (i.e., a pigmented polymer particle with an ionomer coating) or the method of obtaining this structure by the steps recited. Certain advantages are noted by applicants in the response including the ability to use a pigmented particle with certain features (e.g., abrasion resistance) while obtaining the requisite chargeability in the liquid toner. Based on these disclosures applicants take the position that the combination would not have been obvious to the artisan.

In response the Examiner notes that Whitbread combines rosin and pigment to produce scuff resistant images when dried (col. 2, l. 21-25). The artisan seeking to obtain this advantage while controlling the charging to a specific degree such as taught by the EP reference would have ample motivation to combine the references to obtain the combination of scuff resistance and controlled chargeability by the references. The art clearly indicates that the artisan would know that toner particles can be coated to obtain the desired charge for a specific application.

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As discussed in the last Office action, Metcalfe teaches that pigment particles do not necessarily have the necessary and required charge for a desired development process and thus charge control agents (i.e., compounds which adjust the charge of the pigment in the carrier liquid) are coated onto the pigment to give the requisite charge. The body of art is such that the artisan would recognize that the pigmented particles are known to provide certain advantages (e.g., Whitbread's high contrast, scuff resistant images or Schaffert's small particle size). The artisan would also recognize that the art teaches that coating the particle with an ionomer, as in the EP reference, can modify the charge of toner particles. The EP reference pigment would not be expected to have the scuff resistance taught by Whitbread because this is a result of the combination of the rosin and pigment. Although the EP reference does produce a workable liquid toner by itself, the artisan would clearly recognize that improvements could be made to the EP liquid toner's image by use of Whitbread's pigmented polymer particle. Further, a finer toner image would be expected by preparing the toner particle according to the method of Schaffert. The EP reference in combination with the other art suggests each of the claimed process steps for the reasons of record. The combined art would also give the structure required by the process.

The advantages discussed by applicants are suggested by the art, such as Whitbread.

The references in combination suggest the claimed invention for the reasons given here and in the prior Office action. The rejection is applicable to the newly submitted claims for the reasons of record.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29

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USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 30-45 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13 and 18-32 of U.S. Patent No. 6,337,168. Although the conflicting claims are not identical, they are not patentably distinct from each other because the specific methods presented in the instant claims include totally within their scope the narrower limitations of the patent claims. Specifically, the patent claims recited specific steps of dispersing of pigmented polymer particles in the carrier liquid, mixing an ionomer with the dispersed components, coating of the ionomer on the pigmented polymer particles, and adding at least one charge director, where the polymer particles before coating having specific charge characteristics that fall within the scope of the claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 703 308-2465. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703 308-2464. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.

cdr
February 10, 2003



**CHRISTOPHER RODEE
PRIMARY EXAMINER**